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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Application of	:	
	:	
Herbert BALTES et al.	:	PATENT
	:	
Serial No.: 10/540,011	:	Art Unit: 3726
	:	
Filed: June 22, 2005	:	Examiner: R. J. Walters
	:	
For: METHOD FOR THE PRODUCTION	:	Appeal No. _____
OF PISTON-TYPE ACCUMULATORS	:	

BRIEF ON APPEAL

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APPENDIX A – COPY OF CLAIMS ON APPEAL

APPENDIX B – NONE

APPENDIX C – NONE

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APPELLANT BRIEF
ON APPEAL UNDER 37 C.F.R. §41.37

COMMISSIONER FOR PATENTS
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Sir:

For the appeal to the Board of Patent Appeals and Interferences from the decision dated February 10, 2009 of the Primary Examiner twice and finally rejecting claims 11-30 in connection with the above-identified application, Applicant-Appellant submits the following brief in accordance with 37 CFR §41.37.

1. Real Party in Interest

The inventors, Herbert Baltes and Walter Dorr, assigned their entire rights, titles and interests in the patent application to Hydac Technology GmbH of Sulzbach, Germany.

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2. Related Appeals and Interferences

There are no other related appeals or interferences known to Appellants, Appellants' legal representative, or assignee, which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending Appeal.

3. Status of Claims

Claims 1-10 are cancelled. Claims 11-30 are pending, are rejected, and are on appeal.

4. Status of Amendments

Subsequent to the February 10, 2009 Office Action containing the final rejection, an Amendment was filed on April 10, 2009. The May 5, 2009 Advisory Action indicated that such Amendment will be entered for purposes of appeal.

5. Summary of the Invention

Claim 11 recites a method for producing a piston accumulator, comprising mounting a piston 12 in an accumulator housing 10 for movement along a longitudinal axis 48 of the housing 10, with the piston 10 separating housing interior into two working chambers 16 and 18 between first and second longitudinal ends of the housing (p. 5, lines 1-25; Figs. 1-2). At least a first shoulder 38 is provided in the housing interior adjacent to but spaced from the first housing longitudinal end 32 (p. 6, lines 4-8; Fig. 2). A first cover component 20 is inserted at least partially within the housing 10 through the first longitudinal end 32 when open until its inner surface portion 36 engages the first shoulder 38 preventing further insertion of the first cover component 20 (p. 6, lines 4-10; Fig. 2). A first end portion of the housing 10 between the first shoulder 38 and the first longitudinal end 32 is deformed at an acute angle relative to the

longitudinal axis 48 against an axial outer circumferential contact surface 46 extending at a corresponding acute angle relative to the longitudinal axis 48 and about an axial outer surface portion of the first cover component 20 to secure the first cover component 20 in the housing 10 with the first cover component 20 sealing the first longitudinal end of the housing closed (p. 6, lines 11-22; Fig. 2). The second longitudinal end of the housing is sealed closed (p. 9, line 22; Figs. 1-2).

By performing the method in this manner, the piston accumulator is formed and sealed in a reliable operation that is simple and inexpensive to perform. The deforming of the housing end portion at an acute angle is particularly simplified by the accumulator housing deformation being at a free end and against an exposed axial surface of the cover component to simplify the operation and the tooling necessary for this deformation.

6. Grounds of Rejection to be Reviewed on Appeal

Claims 11-12, 14-16 and 24-25 stand rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,311,910 to Hasegawa.

Claims 17-22 and 26-30 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,311,910 to Hasegawa.

Claims 13 and 23 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,311,910 to Hasegawa in view of JP 3092679A to Masanobu.

7. Arguments

A. Rejection Under 35 U.S.C. §102 Based on Hasegawa Patent

(1) The Rejection

Claims 11, 12, 14-16, 24 and 25 stand rejected under 35 U.S.C. §102 as being anticipated by U.S. Patent No. 5,311,910 to Hasegawa. The Hasegawa patent is cited for a method for producing a piston accumulator in which a cover component 5 is at least partially inserted within housing 1a through a first longitudinal end when open until an inner surface portion 5c of the first cover engages housing shoulder 1b, and then deforming the first end of housing 1a between first shoulder 1b and the first longitudinal end at an acute angle relative to the longitudinal axis. Fig. 4b is apparently relied upon for showing a forming tool 10 deforming at an acute angle onto the housing 1a against an axial outer contact surface extending at a correspondingly acute angle relative to the longitudinal axis (with the contact surface being the acute angle portion of forming tool 10) and about an outer surface portion of cover component 5. The second longitudinal end of the housing is allegedly sealed. Relative to claim 12, the housing end is alleged to be deformed substantially flush. Relative to claim 14, the cover allegedly tapers outward. Relative to claim 15, the Hasegawa shaping tool is allegedly forced axially. Relative to claim 16, point 1b is allegedly a transition point of different wall thicknesses of the Hasegawa housing. Relative to claim 24, housing 1a is alleged to act as an insertion bevel widening toward the exterior. Relative to claim 25, the cover component has a height twice of the height of the deformed section.

(2) Claim 11

The subject matter of claim 11 is not anticipated or rendered obvious by the Hasegawa patent since the Hasegawa patent does not disclose or render obvious deforming the housing free end portion at an acute angle against an exposed, acutely angled, axial surface of the cover component. Contrary to the contention made in paragraph 24 of the final Office Action, claim 11 recites that the deformation is against a cover component contact surface extending in an acute angle relative to its longitudinal axis. Claim 11, lines 11-14, specifically read as follows:

deforming a first end portion of the housing between the first shoulder and the first longitudinal end at an acute angle relative to the longitudinal axis against an axial outer circumferential contact surface extending at a corresponding acute angle relative to the longitudinal axis and about an axial outer surface portion of the first cover component. (emphasis added).

This claim portion recites that each of the axial outer circumferential contact surface and the axial out surface portion are “of the first cover component”, and thus, part of the first cover component. Since the axial outer circumferential contact surface is part of the first cover component, the deformation must be against that cover component. No other claim interpretation is reasonable or is even proffered in the final Office Action or the subsequent Advisory Action. Also, this application only discloses the contact surface on the cover component, such that applicant’s interpretation is the only one that is reasonable and supported by the application. As stated in Gentry Gallery Inc. v. Berkline Corp., 134 F.3d 1473, 1479, 45 USPQ2d 1498, 1503 (Fed. Cir. 1998)

“...claims may be no broader than the supporting disclosure, and therefore that a narrow disclosure will limit claim breadth.”

If the axial outer circumferential contact surface is not required to be part of the cover component, such contact surface would then not be defined relative to and connected to other recited limitations, and would have been held to be indefinite under 35 U.S.C. §112, second paragraph. No rejection under 35 U.S.C. §112, second paragraph, has been presented.

As clearly shown in Figs. 1-4b, the Hasegawa contact surface on the cover component is perpendicular to the longitudinal axis, not at an acute angle. Any Hasegawa angled surface on the tool will not satisfy claim 11, since that tool surface is not of the cover component, as recited in claim 11.

Claim 11 is then patentably distinguishable over the Hasegawa patent by reciting that the deformation is against a cover component contact surface extending in an acute angle (i.e., an angle less than 90 degrees) relative to its longitudinal axis. As clearly shown in Figs. 1-4b, the Hasegawa stepped contact surfaces are perpendicular to the longitudinal axis, and are not at an acute angle.

Thus, reversal of the rejection of claim 11 is requested.

(3) Dependent Claims 12, 14-16 and 24-25

Claims 12, 14-16 and 24-25 being dependent upon claim 11, are also allowable for the above reasons advanced above relative to claim 11. Moreover, these dependent claims recite additional features further distinguishing them over the cited patents.

(a) Claim 12

Claim 12 is further distinguishable by the end edge of the first longitudinal end being deformed to be substantially flush with the outer surface portion surrounded by an acutely angled contact surface. No such flush arrangement is disclosed in the Hasegawa patent. Fig. 5 is cited relative to this feature in the Advisory Action. However, Fig. 5 shows the housing free end axially spaced from the outer surface of its cover component 5.

(b) Claim 14

Claim 14 is further distinguishable by the outer cover component tapering along the contact surface, which is an outer axial surface. No such tapering surface in the Hasegawa patent is axial and outer, as claimed. The Hasegawa contact surface is either perpendicular or parallel to the longitudinal axis on the cover component. The Hasegawa surface 5c is not the contact surface for receiving the deformed portion, and that surface tapers (i.e., reduces in size) toward the inside, not toward the outside, as claimed. As noted in the above quoted portion of claim 11, the housing end portion is deformed against the acutely angled contact surface of the first cover component.

Contrary to the contentions raised for the first time in the Advisory Action, the tapering portion must be along the contact surface, which contact surface is about the axial outer surface portion and against which the end portion of the housing is deformed (as recited in claim 11 upon which claim 14 depends). The outward direction is relative to the housing interior recited in claim 11. The claim language must be read in that context.

(c) Claim 15

Claim 15 is further distinguishable by the deforming being formed by axially forcing a first shaping tool against and over the first longitudinal edge with a positioning bevel engaging the first end portion. None of the cited patents disclose or render obvious this deformation by the claimed axial forcing of the shaping tool. The Hasegawa lateral staking member 10 is only disclosed to move radially, as shown by the arrow in Fig. 4A and the description of being forced “radially inwardly” in column 3, lines 50-51, not axially. No disclosure of an axial force or an analysis demonstrating an inherent axial force in the Hasegawa patent is provided. Such unsupported allegation does adequately support the alleged anticipation.

(d) Claim 16

Claim 16 is further distinguishable by the reduced wall thickness and the transition forming the shoulder within the overall claimed combination.

(e) Claim 24

Claim 24 is further distinguishable in the guiding of the first cover component by an insertion bevel at a free end edge of the first longitudinal edge portion. The Hasegawa patent relied upon for the feature does not have an insertion bevel located at a free end edge, particularly in combination with a shoulder (acting as a stop for the cover component) in the interior of the housing spaced from the housing end (recited in claim 11 upon which claim 24 depends). The dependency of claim 24 on claim 11 provides the combination of the insertion bevel and the shoulder. Hasegawa portion 1b is not at a free end edge of housing 1a, but is spaced within that housing.

(f) Claim 25

Claim 25 is further distinguishable by the relative heights of the cover component relative to the deformed section of the housing. No evidence of record shows that these limitations are disclosed in or rendered obvious from the Hasegawa patent. The Hasegawa patent does not show a cover component height at least twice the deformed section height, as claimed. No relative dimensions are disclosed in the Hasegawa patent.

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To support an anticipation rejection, all elements of the claim must be found in a single reference. In re Royka et al., 490 F.2d 981, 984, 180 USPQ 580, 582 (CCPA 1974). Rejections under 35 U.S.C. § 102 are proper only when the claimed subject matter is identically disclosed or described in the prior art. In re Marshall, 578 F.2d 301, 304, 198 USPQ 344, 346 (CCPA 1978). Since all elements of each of claims 11-12, 14-16 and 24-25 are not identically disclosed or described in the Hasegawa patent, the rejection of these claims under 35 U.S.C. § 102 is untenable and reversal thereof is requested.

B. Rejection Under 35 U.S.C. §103 Based on Hasegawa Patent

(1) The Rejection

Claims 17-22 and 26-30 stand rejected under 35 U.S.C. §103 as being unpatentable over the Hasegawa patent. In support of these rejections, it is contended that it would be obvious to form the bevel to taper from the free end edge to form the second end of the accumulator housing in the same manner as the first end described above, to form both ends simultaneously, and to deform the first end portion of an obtuse angle. The Hasegawa deformed section 5a is alleged to extend directly from its first longitudinal end 1a in Fig. 5.

(2) Claim 17

Claim 17 is distinguishable for the reasons advanced above relative to claim 11, and is further distinguishable by the insertion bevel 50 extending from the free end edge of the housing. No evidence supports the allegation of the claimed bevel at the free end is obvious. The reason of proper positioning is improper hindsight from applicant's disclosure.

Despite the simple concept of the invention, the Examiner has the burden of finding "the specific understanding or principle within the knowledge of a skilled artisan that would have motivated one with no knowledge of [the] invention to make the combination in the manner claimed." See In re Werner Kotzab, 217 F.3d 1365, 1371, 55 USPQ 2d 1313, 1318 (Fed. Cir. 2000). Here, the necessary factual findings are missing, rendering the rejection untenable.

The Examiner, in this situation has not pointed to any specific principle or motivation in the prior art that would lead one skilled in the art to arrive at the invention as claimed. "[P]articular findings must be made as to the reason the skilled artisan, with no knowledge of the claimed invention, would have selected these components for combination in the manner claimed." In re Werner Kotzab, 217 F.3d at 1371, 55 USPQ 2d at 1318. If no particular finding can be made as to the reason one skilled in the art would have formed the claimed insertion bevel on the Hasegawa housing, the Examiner cannot hold the invention obvious.

(3) Claim 18

Claim 18 is distinguishable for the reasons advanced above relative to claims 11 and 15, and is further distinguishable by the sealing of the second longitudinal end in the same manner as the first longitudinal end. Such sealing of the second longitudinal end is thus distinguishable by the features of claim 11 being also applied to the second end of the housing. Such dual sealing is

not obvious and is not adequately shown to be obvious from the Hasegawa patent, as alleged, and is improperly based on hindsight.

(4) Claim 19

Claim 19 is distinguishable for the reasons advanced above relative to claims 11, 15 and 18, and is further distinguishable by the second end being formed by an axially movable shaping tool. As noted above, none of the cited patents discloses such second axial shaping tool.

(5) Claim 20

Claim 20 is distinguishable for the reasons advanced above relative to claim 11, and is further distinguishable for the same reasons advanced above relative to claim 18.

(6) Claim 21

Claim 21 is distinguishable for the reasons advanced above relative to claims 11 and 20, and is further distinguishable by the first and second end portions being simultaneously deformed. No such simultaneous deformation of end portions is disclosed or rendered obvious by the cited patents.

(7) Claim 22

Claim 22 is distinguishable for the reasons advanced above relative to claims 11, 15 and 18-19, and is further distinguishable by the first and second end portions being simultaneously deformed. No such simultaneous deformation of end portions is disclosed or rendered obvious by the cited patents.

(8) Claim 26

Claim 26 is distinguishable for the reasons advanced above relative to claims 11 and 20, and is further distinguishable by the relative heights of the cover components relative to the

deformed sections of the housing. No evidence of record shows that these limitations are disclosed in or rendered obvious from the Hasegawa patent. The Hasegawa patent does not show cover component heights at least twice the deformed section heights, as claimed. No relative dimensions are disclosed in the Hasegawa patent.

(9) Claim 27

Claim 27 is distinguishable for the reasons advanced above relative to claim 11, and is further distinguishable by the deformed section being at an obtuse angle. No evidence of record supports the allegation that this limitation is obvious. Without any evidence, a *prima facie* case of obviousness is lacking.

(10) Claim 28

Claim 28 is distinguishable for the reasons advanced above relative to claims 11 and 20, and is further distinguishable by the deformed sections being at an obtuse angle. No evidence of record supports the allegation that these limitations are obvious. Without any evidence, a *prima facie* case of obviousness is lacking.

(11) Claim 29

Claim 29 is distinguishable for the reasons advanced above relative to claims 11 and 20, and is further distinguished by each deformed section extending directly from the respective longitudinal end. In contrast, the Hasegawa deformed sections in Figures 4A and 4B are spaced from and do not extend directly from the longitudinal ends.

(12) Claim 30

Claim 30 is distinguishable for the reasons advanced above relative to claims 11 and 20, and is further distinguished by each deformed section extending directly from the respective

longitudinal end. In contrast, the Hasegawa deformed sections in Figures 4A and 4B are spaced from and do not extend directly from the longitudinal ends.

C. Rejection Under 35 U.S.C. §103 Over Hasegawa and Masanobu Patents

(1) The Rejection

Claims 13 and 23 stand rejected under 35 U.S.C. §103 as being unpatentable over the Hasegawa patent in view of Japanese Patent No. 03092679A to Masanobu. The Masanobu patent is cited in connection with a projection 28 on cover component 26 (Fig. 3) and a positioning tool for positioning the cover in the housing, which the Examiner contends would be obvious to use in the Hasegawa system.

(2) Claim 13

Claim 13 is distinguishable for the reasons advanced above relative to claim 11, and is further distinguishable by the projection extending axially from the axial outer surface portion surrounded by an acutely angled contact surface of the first cover component. No such projection is disclosed in the Hasegawa patent or the Masanobu patent. The Masanobu projection, allegedly shown in Fig. 3, is not extending from an axial outer surface portion surrounded by an acutely angled contact surface.

(3) Claim 23

Claim 23 is distinguishable for the reasons advanced above relative to claim 11, and is further distinguishable by use of a position tool with a feed bevel. The Masanobu part 13 is not shown to meet the limitations of claim 23, since its function is not clear from the drawings or the partial translation provided. Particularly, nothing in the Masanobu patent demonstrates that such part 13 is a positioning tool enclosing the first end portion of the housing and the claimed step of

inserting the cover component into the housing by a feed bevel of that positioning tool. The use of that positioning tool in this method claim must be considered in determining patentability.

8. Conclusion

In view of the foregoing, the rejections of claims 11-30 are untenable and reversal thereof is requested.

Respectfully submitted,



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APPENDIX A – CLAIMS ON APPEAL

11. A method for producing a piston accumulator, comprising the steps of:

mounting a piston in an accumulator housing for movement along a longitudinal axis of the housing with the piston separating an interior of the housing into two working chambers between first and second longitudinal ends of the housing;

providing at least a first shoulder in the interior of the housing adjacent to but spaced from the first longitudinal end of the housing;

inserting a first cover component at least partially within the housing through the first longitudinal end when open until an inner surface portion of the first cover component engages the first shoulder preventing further insertion of the first cover component;

deforming a first end portion of the housing between the first shoulder and the first longitudinal end at an acute angle relative to the longitudinal axis against an axial outer circumferential contact surface extending at a corresponding acute angle relative to the longitudinal axis and about an axial outer surface portion of the first cover component to secure the first cover component in the housing with the first cover component sealing the first longitudinal end of the housing closed; and

sealing the second longitudinal end of the housing closed.

12. A method according to claim 11 wherein

the first longitudinal end has an end edge deformed to be substantially flush with the outer surface portion.

13. A method according to claim 11 wherein

a projection extends axially from the outer surface portion of the first cover component.

14. A method according to claim 11 wherein

the first cover component tapers in an outward direction along the contact surface.

15. A method according to claim 11 wherein

the first end portion is deformed by axially forcing a first shaping tool against and over the first longitudinal end with a positioning bevel in the first shaping tool engaging the first end portion and extending at an acute angle corresponding to the angle of the contact surface.

16. A method according to claim 11 wherein

the first end portion is formed with a reduced wall thickness relative to an adjacent portion of the housing, with a transition point between different wall thicknesses forming the first shoulder.

17. A method according to claim 11 wherein

the first cover component is guided into the housing by engaging an insertion bevel tapering inwardly from a free end edge of the first longitudinal end on an interior surface of the housing.

18. A method according to claim 15 wherein

the second longitudinal end is sealed by providing a second shoulder in the interior of the housing adjacent to but spaced from the second longitudinal end of the housing;

inserting a second cover component at least partially within the housing through the second longitudinal end when open until an inner surface portion of the second cover component engages the second shoulder preventing further insertion of the second cover component; and

deforming a second end portion of the housing between the second shoulder and the second longitudinal end at an acute angle relative to the longitudinal axis against an axial outer circumferential contact surface extending at a corresponding acute angle relative to the longitudinal axis and about an axial outer surface portion of the second cover component to secure the second cover component in the housing with the second cover component sealing the second longitudinal end of the housing closed.

19. A method according to claim 18 wherein

the second end portion is deformed by axially forcing a second shaping tool against and over the second longitudinal end with a positioning bevel in the second shaping tool engaging the

second end portion and extending at an acute angle corresponding to the angle of the contact surface of the second cover component.

20. A method according to claim 11 wherein

the second longitudinal end is sealed by providing a second shoulder in the interior of the housing adjacent to but spaced from the second longitudinal end of the housing;

inserting a second cover component at least partially within the housing through the second longitudinal end when open until an inner surface portion of the second cover component engages the second shoulder preventing further insertion of the second cover component; and

deforming a second end portion of the housing between the second shoulder and the second longitudinal end at an acute angle relative to the longitudinal axis against an axial outer circumferential contact surface extending at a corresponding acute angle relative to the longitudinal axis and about an axial outer surface portion of the second cover component to secure the second cover component in the housing with the second cover component sealing the second longitudinal end of the housing closed.

21. A method according to claim 20 wherein

the deforming of the first and second end portions is performed simultaneously by applying forces in opposite axial directions.

22. A method according to claim 19 wherein

the deforming of the first and second end portions is performed simultaneously by applying forces in opposite axial directions.

23. A method according to claim 11 wherein

the first cover component is inserted into the housing by a feed bevel of a positioning tool enclosing a free end edge of the first end portion of the housing.

24. A method according to claim 11 wherein

an inner circumference of a free end edge of the first longitudinal end comprises an insertion bevel widening toward an exterior of the housing to guide the first cover component into the housing.

25. A method according to claim 11 wherein

the first cover component has a height at least twice a height of a deformed section of the first end portion overlying the contact surface.

26. A method according to claim 20 wherein

each of the cover components has a height at least twice a height of a deformed section of the respective end portion overlying the respective contact surface.

27. A method according to claim 11 wherein

a deformed section of the first end portion is deformed at an obtuse angle.

28. A method according to claim 20 wherein

a deformed section of each end portion is deformed at an obtuse angle.

29. A method according to claim 27 wherein

the deformed section extends directly from the first longitudinal end.

30. A method according to claim 27 wherein

each deformed section extends directly from the respective longitudinal end.

APPENDIX B - EVIDENCE

None.

APPENDIX C – RELATED PROCEEDINGS

None.